1 ABSTRACT

2   A cluster computing system, comprises: a production host

3 group; a standby host group coupled to the production host group

4 by a network; and a remote mirror coupled between the production

5 host group and the standby host group, the remote mirror

6 including a production site heartbeat storage volume (heartbeat

7 PVOL) and a standby site heartbeat storage volume (heartbeat

8 SVOL) coupled by a remote link to the heartbeat PVOL, with the

9 production host group configured to selectively send a heartbeat

10 signal to the standby host group by use of at least one of the

11 network and the remote link. A method of checking for failure

12 in a cluster computing system, comprises: generating a heartbeat

13 signal from a production host group; selectively sending the

14 heartbeat signal to the standby host group from the production

15 host group by use of at least one of a network and a remote

16 link; and enabling the standby host group to manage operations

17 of the cluster computing system if an invalid heartbeat signal

18 is received by the standby host group from the production host

19 group.

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